Dial, of Pine Bluff; Dr. N. M. Norton, T. P. McGehee, at Lake Village; Dr. B. L. Hill, sr., Dr. C. W. Sillin, Mrs. Anna B. Stoops, Mrs. Edwin Pettit, of Stuttgart; Dr. O. E. Pluckett, R. N. Smith, Dr. P. Q. Patterson, Dr. L. E. Piles, and Dr. Brewer, of Augusta; and to the physicians of the State of Arkansas who so kindly responded to the circular postal cards, on whose replies this report is based.

THE FULL-TIME HEALTH OFFICER.

HIS IMPORTANCE IN LOCAL HEALTH ADMINISTRATION AND IN THE ADVANCEMENT OF RURAL HYGIENE.

An address delivered before the State Conference of Health Officers of Kentucky, at Louisville, December 8, 1913.

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The State of Kentucky presents a condition of lively interest to the student of health and sanitation. As a State it is among the most typically American in the country. According to the 1910 census you had a population of 2,290,000, of whom about 98 per cent were native born. You have, therefore, no serious problems of assimilating the foreigners in your midst, as we have in the East. The State of New York, for example, has 30 per cent of its total population foreign born, many of whom have come here more or less recently from southern or eastern Europe. Furthermore, over 75 per cent of your population live in rural territory or in small communities of less than 2,500 inhabitants. Your population is, therefore, homogeneous. You live in the country and are free from congestion and those other unfavorable conditions of industrial and urban life which make the health problems of many of our States so acute.

The situation in Kentucky is interesting in another respect. You have upon your statute books a good health law, which provides the necessary machinery for your health work. You have also a model law for the registration of births and deaths and you have been admitted to the registration area. In other words, you have what, to a stranger like myself, would appear to be a very favorable condition for efficient health administration, namely, a population not too large, of good native stock, thoroughly imbued with American ideals, and, secondly, adequate statutory provision to make your sanitary control both sure and efficient.

It is therefore not surprising that health experts look to Kentucky for an encouraging example. They are anxious to learn whether you are ready to take full advantage of your fine opportunities; whether you will make continuous advances in health conditions and perhaps be able to solve for other States some of the vexing problems of rural

hygiene. Not only are your own best interests involved in the success or failure of your endeavors, but the success of health work in other places is at stake. Other communities will be guided by your results in the provision which they will make for the protection of their people.

Permit me to review the essential features of your health law:

In the main, your administration is based on the county as the unit of organization. The county boards of health are each clothed with responsibility in their several jurisdictions. They have power to establish and execute sanitary regulations for the control of disease; to establish quarantine and erect hospitals for the treatment of communicable diseases. The county boards must, moreover, report to the State board at least every three months on the incidence of communicable diseases and on the general sanitary condition of the county. Each county board acts through an executive secretary, who is the health officer of the county. He receives compensation from the county and holds office at the pleasure of the local board. Apart from the officers of the State board and a few local health officers in each of the larger cities, the county health officers hold the key to the situation in your State. Upon their efficiency and loyalty depends the health progress of Kentucky.

Kentucky has 119 counties, the population ranging from about 4,000 in Robertson County to 263,000 in Jefferson County. A large number of your counties have much the same land area, with a population density of about 57 inhabitants per square mile, or an average of a little under 20,000 per county. This makes a favorable unit for the administration of rural health work, and you are to be congratulated upon your natural advantages of geographical distribution. The one question that arises in my mind, however, is this: To what extent are your local county organizations fighting machines for vigorous administration? What provisions have you made for getting the work done that must be done? To what extent is your county health officer a live public-health executive, giving all his time and energy to the public service? In the last analysis this is the one great question which you must face squarely and answer.

The problem that I am here considering is not a new one. Other States have addressed themselves to it, and to-day there is agreement that the work of the local health officer must measure up to certain standards. I propose to review some of these standards, not because you are not familiar with them, but rather for the sake of emphasis. In this way we may examine our problem comprehensively and draw the necessary conclusions.

1. The county health officer must be a full-time official; that is essential. In certain States the county unit has not been closely followed, and where the county is too small or too sparsely settled to

permit the services of a full-time official a few counties have been merged for health purposes. In every instance, however, the full time of a competent person is obtained and the geographical arrangement is modified to suit. I do not know to what extent your distribution of population in certain of the smaller counties calls for a similar arrangement; nor do I know whether your laws would permit of such a merging of county lines, but whether they do or not, the principle is clear. The health officer must be one whose sole interest is in the community to the exclusion of private interest, be it his own or that of private individuals or groups. The occasion should no longer arise when a health officer may be tempted by personal considerations to neglect the clear dictates of community needs. You know only too well how often the part-time health officer who has a private practice to maintain must choose between the performance of public duty and the loss of his practice. This situation should not arise; he should never find it necessary to compete with those whom it is his sworn duty to supervise.

2. The county health officer should be well trained in the modern science of sanitation and public health. The average practicing physician is not well enough equipped, as a rule, to administer a progressive health office. The protection of the public health, as now conceived, is a science with its own data and formulas. The larger medical schools, such as those at Harvard and at the University of Michigan, for example, have organized special postgraduate courses leading to the degree of doctor of public health. It will be a great day in American public-health affairs when medical officers will, as a class, qualify by study in such postgraduate courses for their arduous duties. But experience is also a good school, and the health officers here assembled have been trained in the severest of schools. Ultimately provision will undoubtedly be made in your State for the exclusive appointment of holders of the diploma in public health. May I suggest that you direct your energies toward your personal improvement through study to qualify for the distinctive degree of your profession?

3. The tenure of office of the health officer should be coextensive with his efficient service. The successful health officer is made, not born. With a proper background of training, every year of added experience makes him a more useful servant of the State. The health officer should therefore be assured of a continuous tenure of office. He should in no way be a pawn in the political game. A period of six to eight years has been suggested as a sufficient term. Health officers who have made good should then be considered for reappointment, although the State may reserve the right to dismiss in shorter time those who are incompetent or neglectful of their duties. There is no better reason for removing good health officers than there is for

changing other public servants whose work is necessarily continuous, and who, in the first instance, are properly chosen.

In view of these requirements it should hardly be necessary to point out that health officers must be reasonably compensated for their services. We have already assumed that the man chosen for the place is the one in a hundred best qualified by training. Surely, if his full time is required, his compensation must be sufficient to attract him in the first place, and to keep him later in the service without inflicting any hardship upon him or his family. It is folly to set high standards and make them impossible of attainment through inadequate compensation or uncertainty of tenure. Health laws may as well not exist if they are not properly enforced through adequate appropriations. A county health officer, having in his safe-keeping 20,000 lives, can not maintain himself on an annual allowance of a few hundred dollars. It is not for me to determine what you shall pay, but your salaries must be adequate to attract able men and to maintain them in a state of comfort consistent with their important duties.

I say this guardedly. I am one of those who believe in governmental economy. I have always urged that the efficiency tests which have been introduced into modern business must also be applied to the expenditure of public funds. It is because of this very conviction that I maintain that communities must tax themselves liberally to support high standards of health administration; for it is the best economy in the end. The chief assets of a community are the life and the health of its citizens. We are realizing more and more that life and health are within our control. Changes in century-old conditions are being brought about everywhere under our very eyes, and the marvels of modern medicine are visible on all sides.

Permit me to point out more definitely the character of the return that awaits you on your investment for full-time health officers. In spite of the fact that yours is a rural State, you are by no means free from the ravages of tuberculosis. In the year 1911, 5,293 deaths from this disease were reported in your State—a rate of 229.3 per hundred thousand. In the registration States, which include the centers of congestion, the rate was 155.6 per hundred thousand. A clear duty is therefore at your door, namely, to reduce the prevalence of tuberculosis. This would be the first task of a full-time health officer. If in five years the mortality rate from this disease be reduced to what it is in the registration area to-day, about 1,700 lives will be saved annually for the State of Kentucky. The victims are largely men and women in their prime, whose money value to the State would be enough to compensate for the cost of the additional health work.

Your typhoid problem is equally urgent. In 1911 your death rate from this disease was 46.3 per hundred thousand, as against 20.4 in the registration States. In this respect your experience is parallel to that of other rural communities and reflects clearly the many sanitary dangers incident to life in the country. Typhoid fever is always, to the health engineer, an unerring signal directing him toward polluted water supplies, infected food products, and unsupervised typhoid carriers, who are a constant menace to the entire State through their effect on milk and other food supplies. All of these sources of typhoid infection, including the disposal of dangerous waste products, lend themselves to concerted efforts of modern sanitary science. Indeed, no disease has shown such a ready response to control as this preventable filth disease. What is everyone's concern is no one's. The full-time health officer, supported enthusiastically by his community, would in the course of his first administration earn many times his cost in reducing the amount of sickness from this cause alone.

The full-time health officer would, of course, participate in other lines of activity. The influence of his work would soon become manifest in reduced rates of sickness for the other preventable diseases. The records put at my disposal show that in 1912, 39.5 per cent of all your deaths were of this character. In other words, about 12,000 deaths and many more cases of sickness occurred in the course of the year which might to a large extent have been prevented if proper sanitary facilities had been at work during the past few years. In no one respect, however, would the service of the full-time health officer be more constructive and remunerative to a community than in his active participation in what we now call "child hygiene." In the larger cities throughout the country this phase of health administration is becoming permanently established. In New York, where I am best acquainted with its results, there is no division of the health department which has aroused greater enthusiasm among experts than the division of child hygiene. It would be a function of the full-time county health officer to work in cooperation with the school authorities of his community and to see that each child in his jurisdiction is examined at least once annually. It is during the period of child life that the foundation is laid for the physique which will determine largely the usefulness and longevity of the future citizen. If there were no better excuse than the need for some local authority to carry on intelligent and modern child-hygiene work in each community, you would be justified in appointing a full-time health officer for this purpose.

The full-time health officer would also be of great service as the representative of the State health board in overseeing the reporting of the notifiable diseases and the registration of births and deaths

in each county. Fortunately the health law of Kentucky clearly provides for the reporting of epidemic and communicable diseases to the local boards of health. Your county health officers are, moreover, under obligation by law to see that all the cases are registered and in turn to notify the State office. In spite of the importance of this work it is clear that without adequate administrative supervision it is sure to be neglected. The reports of your county health officers compel me to believe that this is the condition of morbidity registration at the present time in your State, except perhaps in the larger cities, where tuberculosis and typhoid fever are carefully handled. The morbidity reports of your county health officers are extremely vague and indefinite. With full-time health officers to do this important work scientifically and effectively the State would not be deprived, as it is at present, of a most useful agency of sanitation.

An examination of your annual reports has raised a number of other questions in my mind, which I submit frankly for your attention and discussion. I have already remarked that your death rate from tuberculosis is relatively high. For pulmonary tuberculosis alone your figure for 1911 was 200.4 per hundred thousand, or 15.2 per cent of the total deaths for the year. In the registration States the corresponding figures are 134.7 per hundred thousand and 9.7 per cent of the total deaths. In other words, you have a high tuberculosis rate coupled with a low general death rate. As you know, the death rate from tuberculosis presents a fairly constant relation of about 10 per cent to the total deaths in most communities where satisfactory registration conditions prevail. In view of this fact two questions arise, namely, either your tuberculosis rate is inordinately high or, what is perhaps more likely, you are not registering a considerable number of your actual deaths. A death rate of 200 per hundred thousand from pulmonary tuberculosis should, I believe, show a general death rate of about 20 per thousand, and not 13, as your reports indicate. In this connection I need hardly point out how valuable full-time health officers would be to your State health department and to your legislature in putting at their disposal a complete accounting of all the occurrence of disease and death which come under their jurisdiction. You will thus be in a position to see annually what your added expenditures for health work had accomplished in the conservation of health and life.

It was proposed by Dr. Heizer, your State registrar of vital statistics, that I also discuss the economic saving that would accrue to your State through the employment of full-time health officers in the lowered cost of life insurance. I believe that this is the least interesting phase of the discussion. Insurance costs are naturally dependent upon the death rates the companies experience. If your new program results, as it should, in reduced death rates, certain appreciable savings will undoubtedly be experienced by the com-

panies operating in Kentucky. It has been the constant policy of insurance companies to keep in close touch with the life and health conditions prevailing in their territory and in every case to accommodate their rates to the changing mortality. Life insurance is the one essential commodity in modern life the cost of which has not risen during the last 20 years. Further reductions will undoubtedly follow in the wake of improved living standards. Indeed, the history of insurance is the best index of the constant increase in the average span of life which has been observed during the last century.

There is still one other source of communal gain which goes hand in hand with high health standards. I refer to the added commercial value of locations in which good health conditions prevail. Such communities have added attractiveness for purposes of residence and industrial development. Persons who contemplate a change of residence are naturally attracted to places where they can be assured of a good water supply and other safeguards to health. Industrial concerns are located in these days only where a large number of employees can be housed with safety. As a result of these things, land values rise and an impetus is given to the general prosperity of the community.

In closing, let me once more urge upon you that life and health are both largely purchasable. It is only in the present day and generation that we realize the full significance of the situation and feel the obligation that it places upon us. It lies with ourselves whether our communities shall rise up in their strength, to work and accomplish their full possibilities, or whether we shall continue to pay a constant tribute with human life through our indifference and neglect. Public health is no longer an individual matter. We must protect ourselves by keeping watch over all. This is the new order of living, and a new public health, with rigid standards and methods, has come to stay. The full-time health officer is the keystone in the arch of the new public-health service. You are at a crucial point in your health administration. I am sure that you will take good counsel and that your decision will be a source of inspiration to other communities who have not as yet seen the light.

MORBIDITY REPORTS.

PRACTICE IN MINNESOTA IN CASES EXTRA-STATE IN ORIGIN.

In the Public Health Reports of December 5 reference was made to the practice of the Minnesota State Department of Health in regard to the cases of typhoid fever reported in Minnesota in which the patients had apparently received their infection outside the State. The practice referred to was that of notifying the health authorities of the States in which the infection had been received.